UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,559	12/01/2000	Yuki Matsushima	200321US2	1829

			EXAMINER
22850	7590	02/08/2005	HENN, TIMOTHY J

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/726,559	MATSUSHIMA, YUKI
	Examiner	Art Unit	
	Timothy J Henn	2612	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _07 September 2004_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _14-43_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _17 and 21_ is/are allowed.

6)☐ Claim(s) _14,16,18,20,22-27,29,31,33,35 and 40-43_ is/are rejected.

7)☒ Claim(s) _15,19,28,30,32,34 and 36-39_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _07 September 2004_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All   b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to the claims have been considered but are

moot in view of the new ground(s) of rejection.

In the response filed 07 September 2004, the applicant argues that Silverbrook

does not state that a processing time is reduced for processing less important areas of

the image, so as to reduce a total processing time required for processing an entirety of

the image. Although this is not explicitly stated by Silverbrook, it is noted that by

applying certain processing steps to only portions of an image, the processing time is

inherently reduced compared to the case where the processing is applied to the entire

image. It is further noted that the limitation in question appears in apparatus claims and

is considered to be functional language which is not given patentable weight (see MPEP

§2114).

Claim Rejections - 35 USC § 103

2.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

3.   Claims 14, 22, 23, 27, 35 and 40 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Kao et al. (US 6,774,943) in view of Jaffray et al. (US 5,245,432) in

view of Silverbrook (US 6,690,419).

[claim 14]

Regarding claim 14, Kao discloses a camera apparatus comprising: a camera unit configured to acquire an image (c. 3, ll. 5-14) and process the image prior to storage of the image in memory (Figure 4). However, Kao does not disclose processing including gray-scale-level to allocate area-dependent gray scale levels.

Jaffray teaches artistic effects which can be applied to an image. One such artistic effect changes a number of grey-scale levels (Column 10, Lines 19-56) to make the image appear as if highlights were added in chalk (Column 11, Lines 40-42). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the artistic effect of Jaffray to change or "allocate" a number of grey-scale to make an image appear as if highlights were added in chalk. Kao in view of Jaffray lacks a line-of-sight detection unit configured to detect a point of eye fixation of a user within a camera screen, an importance computation unit configured to determine levels of importance for respective areas of the image acquired by the camera unit in accordance with the detection by the line-of-sight detection unit and applying processing in an area-dependent manner to thereby reduce processing time required for processing less important areas of the image.

Silverbrook teaches a line-of-sight detection unit configured to detect a point of eye fixation of a user within a camera screen (Column 2, Lines 23-35) and an importance computation unit configured to determine levels of importance for respective areas of the image acquired by the camera unit in accordance with the detection by the line-of-sight detection unit (Column 2, Line 66 - Column 3, Line 11), and applying processing in an area-dependent manner such that less important areas receive less

processing than the more important areas of the image (c. 2, l. 66 - c. 3, l. 19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to include the line-of-sight detection unit, and importance

computation unit in the camera of Kao in view of Jaffray in order to produce

modifications and transformations of an image in accordance with a sensed eye position

(c. 2, ll. 25-28).

[claim 22]

In regard to claim 22, see claim 14.

[claim 23]

Claim 23 is a method claim corresponding to apparatus claim 14. Therefore,

claim 23 is analyzed and rejected as previously discussed with respect to claim 14.

[claim 27]

Regarding claim 14, Kao discloses a camera apparatus comprising: a camera

unit configured to acquire an image (c. 3, ll. 5-14) and process the image prior to

storage of the image in memory (Figure 4). However, Kao does not disclose processing

including gray-scale-level to allocate area-dependent gray scale levels.

Jaffray teaches artistic effects which can be applied to an image. One such

artistic effect changes a number of grey-scale levels (Column 10, Lines 19-56) to make

the image appear as if highlights were added in chalk (Column 11, Lines 40-42). It

would have been obvious to one of ordinary skill in the art at the time the invention was

made to use the artistic effect of Jaffray to change or "allocate" a number of grey-scale

to make an image appear as if highlights were added in chalk. Kao in view of Jaffray

lacks a line-of-sight detection unit configured to detect a point of eye fixation of a user

within a camera screen, an importance computation unit configured to determine levels

of importance for respective areas of the image acquired by the camera unit in

accordance with the detection by the line-of-sight detection unit and applying processing

in an area-dependent manner to thereby simplifying processing time required for

processing less important areas of the image.

Silverbrook teaches a line-of-sight detection unit configured to detect a point of

eye fixation of a user within a camera screen (Column 2, Lines 23-35) and an

importance computation unit configured to determine levels of importance for respective

areas of the image acquired by the camera unit in accordance with the detection by the

line-of-sight detection unit (Column 2, Line 66 - Column 3, Line 11), and applying

processing in an area-dependent manner such that less important areas receive less or

simpler processing than the more important areas of the image (c. 2, l. 66 - c. 3, l. 19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to include the line-of-sight detection unit, and importance

computation unit in the camera of Kao in view of Jaffray in order to produce

modifications and transformations of an image in accordance with a sensed eye position

(c. 2, ll. 25-28).

[claim 35]

Regarding claim 35, see claim 27.

[claim 40]

Claim 40 is a method claim corresponding to apparatus claim 27. Therefore, claim 40 is analyzed and rejected as previously discussed with respect to claim 27.

4.   Claims 16, 22, 24, 29, 35 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asiada (US 4,943,850) in view of Jaffray et al. (US 5,245,432) in view of Silverbrook (US 6,690,419).

[claim 16]

Regarding claim 16, Asiada discloses a camera unit configured to acquire an image and process the image prior to storing the image in memory (Figure 4). However, Asiada does not disclose image processing including color interpolation.

Jaffray discloses a blur filter which averages or "interpolates" a pixel value from its neighboring pixels in order to give the image a blurred appearance (c. 3, ll. 37-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a blur filter as taught by Jaffray to add a blurring effect to the image. However, Asiada in view of Jaffray lacks a line-of-sight detection unit configured to detect a point of eye fixation of a user within a camera screen, an importance computation unit configured to determine levels of importance for respective areas of the image acquired by the camera unit in accordance with the detection by the line-of-sight detection unit and applying processing in an area-dependent manner to thereby reduce processing time required for processing less important areas of the image.

Silverbrook teaches a line-of-sight detection unit configured to detect a point of eye fixation of a user within a camera screen (Column 2, Lines 23-35) and an

importance computation unit configured to determine levels of importance for respective

areas of the image acquired by the camera unit in accordance with the detection by the

line-of-sight detection unit (Column 2, Line 66 - Column 3, Line 11), and applying

processing in an area-dependent manner such that less important areas receive less

processing than the more important areas of the image (c. 2, l. 66 - c. 3, l. 19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to include the line-of-sight detection unit, and importance

computation unit in the camera of Kao in view of Jaffray in order to produce

modifications and transformations of an image in accordance with a sensed eye position

(c. 2, ll. 25-28).

[claim 22]

In regard to claim 22, see claim 16.

[claim 24]

Claim 24 is a method claim corresponding to apparatus claim 16. Therefore,

claim 24 is analyzed and rejected as previously discussed with respect to claim 16.

[claim 29]

Regarding claim 29, Asiada discloses a camera unit configured to acquire an

image and process the image prior to storing the image in memory (Figure 4).

However, Asiada does not disclose image processing including color interpolation.

Jaffray discloses a blur filter which averages or "interpolates" a pixel value from

its neighboring pixels in order to give the image a blurred appearance (c. 3, ll. 37-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use a blur filter as taught by Jaffray to add a blurring effect to the image. However, Asiada in view of Jaffray lacks a line-of-sight detection unit configured to detect a point of eye fixation of a user within a camera screen, an importance computation unit configured to determine levels of importance for respective areas of the image acquired by the camera unit in accordance with the detection by the line-of-sight detection unit and applying processing in an area-dependent manner to thereby simplify processing time required for processing less important areas of the image.

Silverbrook teaches a line-of-sight detection unit configured to detect a point of eye fixation of a user within a camera screen (Column 2, Lines 23-35) and an importance computation unit configured to determine levels of importance for respective areas of the image acquired by the camera unit in accordance with the detection by the line-of-sight detection unit (Column 2, Line 66 - Column 3, Line 11), and applying processing in an area-dependent manner such that less important areas receive less or simpler processing than the more important areas of the image (c. 2, l. 66 - c. 3, l. 19). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the line-of-sight detection unit, and importance computation unit in the camera of Kao in view of Jaffray in order to produce modifications and transformations of an image in accordance with a sensed eye position (c. 2, ll. 25-28).

[claim 35]

Regarding claim 35, see claim 29.

[claim 41]

Claim 41 is a method claim corresponding to apparatus claim 29. Therefore,

claim 41 is analyzed and rejected as previously discussed with respect to claim 29.

5.   Claims 18, 20, 22, 25, 26, 31, 33, 35, 42 and 43 rejected under 35 U.S.C. 103(a)

as being unpatentable over Furukawa (JP 10-191064) in view of Silverbrook (US

6,690,419).

[claim 18]

Regarding claim 18, Furukawa teaches a camera unit configured to acquire an

image and a sharpness enhancement unit configured to apply sharpness enhancement

to an image prior to storing the image in memory (Figure 1). However, Furukawa lacks

a line-of-sight detection unit configured to detect a point of eye fixation of a user within a

camera screen, an importance computation unit configured to determine levels of

importance for respective areas of the image acquired by the camera unit in accordance

with the detection by the line-of-sight detection unit and applying processing in an area-

dependent manner to thereby reduce processing time required for processing less

important areas of the image.

Silverbrook teaches a line-of-sight detection unit configured to detect a point of

eye fixation of a user within a camera screen (Column 2, Lines 23-35) and an

importance computation unit configured to determine levels of importance for respective

areas of the image acquired by the camera unit in accordance with the detection by the

line-of-sight detection unit (Column 2, Line 66 - Column 3, Line 11), and applying

processing in an area-dependent manner such that less important areas receive less

processing than the more important areas of the image (c. 2, l. 66 - c. 3, l. 19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to include the line-of-sight detection unit, and importance

computation unit in the camera of Furukawa in order to produce modifications and

transformations of an image in accordance with a sensed eye position (c. 2, ll. 25-28).

[claim 20]

Regarding claim 20, Furukawa teaches a camera unit configured to acquire an

image and a noise removal unit configured to apply noise removal to an image prior to

storing the image in memory (Figure 1). However, Furukawa lacks a line-of-sight

detection unit configured to detect a point of eye fixation of a user within a camera

screen, an importance computation unit configured to determine levels of importance for

respective areas of the image acquired by the camera unit in accordance with the

detection by the line-of-sight detection unit and applying processing in an area-

dependent manner to thereby reduce processing time required for processing less

important areas of the image.

Silverbrook teaches a line-of-sight detection unit configured to detect a point of

eye fixation of a user within a camera screen (Column 2, Lines 23-35) and an

importance computation unit configured to determine levels of importance for respective

areas of the image acquired by the camera unit in accordance with the detection by the

line-of-sight detection unit (Column 2, Line 66 - Column 3, Line 11), and applying

processing in an area-dependent manner such that less important areas receive less

processing than the more important areas of the image (c. 2, l. 66 - c. 3, l. 19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to include the line-of-sight detection unit, and importance

computation unit in the camera of Furukawa in order to produce modifications and

transformations of an image in accordance with a sensed eye position (c. 2, ll. 25-28).

[claim 22]

In regard to claim 22, see claims 18 or 20.

[claims 25 and 26]

Claims 25 and 26 are method claims corresponding to apparatus claims 18 and

20. Therefore, claims 25 and 26 are analyzed and rejected as previously discussed with

respect to claims 18 and 20.

[claim 31]

Regarding claim 31, Furukawa teaches a camera unit configured to acquire an

image and a sharpness enhancement unit configured to apply sharpness enhancement

to an image prior to storing the image in memory (Figure 1). However, Furukawa lacks

a line-of-sight detection unit configured to detect a point of eye fixation of a user within a

camera screen, an importance computation unit configured to determine levels of

importance for respective areas of the image acquired by the camera unit in accordance

with the detection by the line-of-sight detection unit and applying processing in an area-

dependent manner to thereby simplify processing time required for processing less

important areas of the image.

Silverbrook teaches a line-of-sight detection unit configured to detect a point of

eye fixation of a user within a camera screen (Column 2, Lines 23-35) and an

importance computation unit configured to determine levels of importance for respective

areas of the image acquired by the camera unit in accordance with the detection by the

line-of-sight detection unit (Column 2, Line 66 - Column 3, Line 11), and applying

processing in an area-dependent manner such that less important areas receive less or

simpler processing than the more important areas of the image (c. 2, l. 66 - c. 3, l. 19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to include the line-of-sight detection unit, and importance

computation unit in the camera of Furukawa in order to produce modifications and

transformations of an image in accordance with a sensed eye position (c. 2, ll. 25-28).

[claim 33]

Regarding claim 33, Furukawa teaches a camera unit configured to acquire an

image and a noise removal unit configured to apply noise removal to an image prior to

storing the image in memory (Figure 1). However, Furukawa lacks a line-of-sight

detection unit configured to detect a point of eye fixation of a user within a camera

screen, an importance computation unit configured to determine levels of importance for

respective areas of the image acquired by the camera unit in accordance with the

detection by the line-of-sight detection unit and applying processing in an area-

dependent manner to thereby simplify processing time required for processing less

important areas of the image.

Silverbrook teaches a line-of-sight detection unit configured to detect a point of

eye fixation of a user within a camera screen (Column 2, Lines 23-35) and an

importance computation unit configured to determine levels of importance for respective

areas of the image acquired by the camera unit in accordance with the detection by the

line-of-sight detection unit (Column 2, Line 66 - Column 3, Line 11), and applying

processing in an area-dependent manner such that less important areas receive less or

simpler processing than the more important areas of the image (c. 2, l. 66 - c. 3, l. 19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to include the line-of-sight detection unit, and importance

computation unit in the camera of Furukawa in order to produce modifications and

transformations of an image in accordance with a sensed eye position (c. 2, ll. 25-28).

[claim 35]

Regarding claim 35, see claims 31 or 33.

[claims 42 and 43]

Claims 42 and 43 are method claims corresponding to apparatus claims 31 and

33. Therefore, claims 42 and 43 are analyzed and rejected as previously discussed

with respect to claims 31 and 33.

Allowable Subject Matter

6.   Claims 15, 19, 28, 30, 32, 34 and 36-39 objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in independent form including all

of the limitations of the base claim and any intervening claims.

[claims 15 and 28]

Regarding claims 15 and 28, the prior art does not teach or fairly suggest a

number of gray-scale-level determining unit which increases a number of gray scale

levels in a first area compared to a second area that has a smaller level of importance
than the first area as claimed.

[claims 19 and 32]

Regarding claims 19 and 32, the prior art does not teach or fairly suggest a
sharpness processing unit which performs a first processing in a first area and performs
a second processing in a second area that has a smaller level of importance than the
first area, the first processing generating an image having higher quality than the
second processing, and the second processing being faster than the first processing as
claimed.

[claim 34]

Regarding claim 34, the prior art does not teach or fairly suggest a noise removal
processing unit which performs a first processing in a first area and performs a second
processing in a second area that has a smaller level of importance than the first area,
the first processing generating an image having higher quality than the second
processing, and the second processing being faster than the first processing as
claimed.

[claims 36-39]

Regarding claims 36-39, the prior art does not teach or fairly suggest an
importance computation unit which determines levels of importance in response to a
distance between an area of importance and respective points in the image or based on
a magnitude at the center of an area of importance.

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
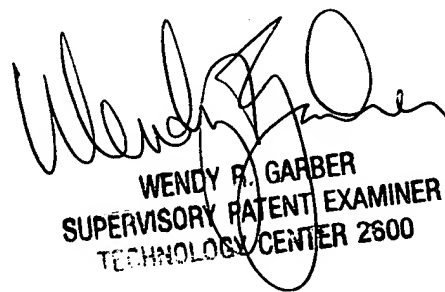
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J Henn whose telephone number is (703) 305-8327. The examiner can normally be reached on M-F 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

TJH
2/5/2005

WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600